Project Report

on

Perfect Gift

submitted in partial fulfillment of the requirements
for the award of the degree
of

Bachelor of Technology

in

Computer Science and Engineering

By

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DECLARATION

We, **Shreyash Mehta and Shubham Garg**, student of Bachelor of Technology in Computer Science and Engineering hereby declare that the Project report entitled **"Perfect Gift"** which is submitted by us to Department of Computer Science and Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh, in partial fulfillment of the requirement for the award of the Degree of Bachelor of Technology in Computer Science and Engineering, has not been previously formed the basis for the award of any degree, diploma or other similar title or recognition. Our supervisor, HOD and the Institute should not be held for full or partial violation of copyrights if found at any stage of our degree.

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<u>CERTIFICATE</u>

This is to certify that the major project entitled "**Perfect GIft**" by **Shreyash Mehta (Enrollment No A60205216031) and Shubham Garg (Enrollment No A60205216069)** is a bonafide record of project carried out by them under my supervision and guidance in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science and Engineering in the Department of Computer Science and Engineering, Amity School of Engineering and Technology, Amity University Madhya Pradesh, Gwalior. Neither this project nor any part of it has been submitted for any degree or academic award elsewhere.

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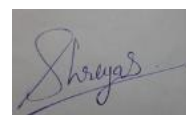Head of the Department

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ABSTRACT

"Perfect Gift" is basically designed for Mobile based Application. The main purpose of this project is to save the time of the users by providing all the information regarding buying the gift at one platform. It has been tedious task for the users to get the information about the Gift that is available in the market which could be great for giving someone on their special occasion. To combat form problem like this, it was necessary to design a system or application where the work required in searching the best gift would be decreased and also process of searching, analyzing the gifts will be easy.

In wake of this ideology, a "**Perfect Gift**" has been implemented using Android Studio. This project contains all information about the Gifts available including all information related to each and every gift price, quality, best given on which occasion and to which age group. Users can register their self for a long time and can search all the information regarding with the Gifts. Through this users can get detailed information of the Gifts and their reviews.

Perfect Gift is implemented in two modules first one is Admin module and another one is user module. Admin module will perform various functions like add gifts, upload gifts details and update database so that users can get information properly. So, Perfect Gift will be the great online arena, where users can find their perfect gift to give without wasting their time.

Keywords: Gift, Android, Database.

LIST OF FIGURES

LIST OF ABBREVIATIONS

S. No.	Terms	Expanded Form
1	API	Application Programming Interface
2	APP	Application
3	HTML	Hyper Text Markup Language
4	HTTP	Hyper Text Transfer Protocol
5	I/O	Input /Output
6	LAMP	Linux, Apache, Mysql and PHP
7	RDBMS	Relational Database Management System
8	UI	User Interface
9	URL	Uniform Resource Locator
10	WAMP	Windows, Apache, Mysql and PHP
11	XAMPP	Cross-Platform, Apache, MariaDB(Mysql), PHP and Perl

CONTENTS

Chapter 1
INTRODUCTION

Mobile Application Development refers to the process of making application software for handheld devices such as mobile phones and Personal Digital Assistants. Through the usage of mobile apps, the user is provided with various features that will enable him to fulfill all his needs and much more. Apps should be interactive to the users. Apps can be downloaded from various platforms such as Google Play Store and iOS App Store. There are free apps as well as paid apps. Some apps can be used for free for a specific amount of time before subscribing for premium membership. For apps with a price, about 20%-30% goes to the distribution provider (Example-iTunes) and the rest to the producer of the app[1].

Figure 1.1: Mobile App Development

For developing apps, the constraints and features of mobile devices needs to be considered. For example, mobile devices have lower processing power, run on battery but have more features such as location detection. Wide range of screen sizes and hardware specifications also needs consideration. For developing apps, specialized integrated development environments such as **Android Studio** or **Eclipse** is required. The app is first tested using devices called emulators which is a software simulation of the actual hardware device and then finally field testing is performed. Mobile user interface(UI) Design is another essential part in application development. The UI involves considerations of contexts, screen and user input and output mobility. The user manipulates the application via input and then the expected results are displayed via the output. There are mobile UI constraints such as limited screen size. Mobile UI is considered as front-end and they rely on back- ends to support access to enterprise systems. The back-end facilities include data routing, security and authorization and is provided by middleware components such as Mobile Backend as a service(MBaaS)[2].

Android is a mobile device application operating system which gives developer more options to make innovative applications, middleware and main features. Google purchased android inc. In 2005, and two years later, in partnership with the open handset alliance community, launched android OS. The main features of the android operating system are: allows free download of application development environment. It gives a global repository play store to download the various application developed all over the globe.

Also it provide developer a android studio a well tailored compiler to build test and deploy app from a single interface it also give developer virtual phones so that we can test application using virtual phones of different size and shapes , also it give memory profiling to the developer to make application development more efficient. It also provide same privileges to access the core component of the device and give a high level of customisations. Followed by optimized memory use and automated monitoring of running applications.

Figure 1.2: Android Versions

Perfect Gift is application system that been modified and created by seen the problem is faced by user handle this type of existing system in our country. Perfect Gift is an application to help any user and also gift shop management team to create the database of all the customers as automated version this system also help to book the seat in the gift shop for any gift.

Actually now days many this type of system are present in the market they easily purchased by the high rated gift shop but an gift shop not purchased of this type of the system because they charged very high rates and also charged high maintenance cost. Database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user. Existing system also not provide the attractive user interface. The interface are very bulky and not create the attention in the mind of the user. Any day this person is absent no other person handle this of system. Sometimes required extra training for working of this type automated system. This reason this systems are more complicated.

This reason small scale and medium scale gift shop maintain their records in the excel sheets and other medium. It is the common platform for every gift shop weather they are small or very big and royal.

Some small and medium scale gift shop are purchased this type of system but this systems are complicated they required an extra person who are trained for this type of system but a one day this person is not present in the gift shop management team whole work in the system is stopped because other persons is not trained to handle this type of system.

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Some gift shops maintains all the data in the excel sheet but maintenance of all the excel sheets are not a very easy task and searching or accessing the all sheets at a time not possible also they not provide proper efficiency at a time. These sheets are create the redundancy in all the record of the customers. This reason this option for maintaining the record are not a good option.

In the existing system user are not easily handle the system. Some complication are confused the user also effect the work of the system and efficiency of the system and provide the unnecessary options in the system they make the system more complicated. The multiplex proprietors are of the view that the proposed income sharing interest will hit their benefits gravely on the off chance that the film neglects to progress nicely, and the proprietors of the multiplex will even now bear the expense of displaying the motion picture. Any day this person is absent no other person handle this of system. Sometimes required extra training for working of this type automated system.

This reason this systems are more complicated thus, it appears to be unjustified on their part. Be that as it may, makers guarantee that it is the brand of the creation house and the star offer that drive the footfalls in multiplexes. Industry watchers state that the makers and wholesalers need to consider the worries of the multiplex proprietors.

User are not check the database easily all the time they go through the database they call the developer of the system .because database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user. A multiplex is a multi screen stimulation complex indicating various gifts under one rooftop with other kind of supporting various gifts under one rooftop with other sort of supporting business in the region like eateries, shopping arcade and other diversion roads. Development of multiplexes has made motion picture going and occasion. Database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user.

Existing system also not provide the attractive user interface. The interface are very bulky and not create the attention in the mind of the user. Individuals can go at pretty much whenever and discover something to watch. In this situation Perfect Gift provides the facility as like existing system and also avoid unnecessary features of the existing system this reason

they easily are going in the hand of small scale and medium scale gift shops . All type essential features are present in this system and their maintenance cost is very low in compare of other existing system. It empowers exhibitor to demonstrate an assortment of motion pictures engaging a few fragments of film goers while serving benefactors from normal help offices, for example, film industry, concession regions, rest room and anteroom.

In the most recent decade, with the freedom of the Indian economy, individuals' preferences, way of life, social conduct and culture have experienced crucial change. Database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user. Existing system also not provide the attractive user interface. The interface are very bulky and not create the attention in the mind of the user.   The two primary impetuses for this change have been the improvement and development of the electronic media as a wellspring of data and excitement combined with the expansion in obtaining intensity of the normal individual. This tremendously affects the relaxation and media outlet when all is said in done and the film business specifically, with expansive results.

In the most recent decade, with the freedom of the Indian economy, individuals' preferences, way of life, social conduct and culture have experienced crucial change. The two primary impetuses for this change have been the improvement and development of the electronic media as a wellspring of data and excitement combined with the expansion in obtaining intensity of the normal individual. Database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user. Existing system also not provide the attractive user interface. The interface are very bulky and not create the attention in the mind of the user. This tremendously affects the relaxation and media outlet when all is said in done and the film business specifically, with expansive results.

Some problem are associated on the existing system .many type of problem are faced by the user the problems are. User are not check the database easily all the time they go through the database they call the developer of the system because database connectivity are complicated and database are work on the online database serve and checking this type of the database are not easy task for a normal user. Existing system also not provide the attractive

user interface. The interface are very bulky and not create the attention in the mind of the user. Our answer focuses on those clients who don't have extra time to remain in line for booking tickets. We propose a simple method for requesting and paying for the tickets with no deferrals and burden. Every time it is compulsory of the trained person are present in the hospital. This type of problems are faced in the existing system.

During a high time of development in numerous towns, the challenge exhibited by a multiplex would regularly make the town's littler venues bankrupt. Multiplexes were regularly created related to huge box stores in power focuses or in rural shopping centers during the 70s and 80s. The extension was executed at the enormous box pace which left numerous auditorium organizations bankrupt while endeavoring to contend practically all significant cinema organizations failed during this hurried improvement process; in any case, amc gift shops turned out poorly liquidation.

Advantages of our system

1. Provide simple but useable features.
2. Provide strong database as a backbone of the system.
3. Provide friendly interface of the user.
4. Present in the market as very nominal rates.
5. Provide efficiency and reliability.
6. Normal user also handle of this system .not required the trained person any other special person for handle of this system.

Chapter 2

REVIEW OF LITERATURE AND DEFINITION OF PROBLEM

In today fastest growing development of the Technology, everyone wants to save his/her maximum time and save that for doing any productive work or some of them use it to fulfill their needs, enjoying their life. Also Android is an very vast platform and also growing day by day many new features are added to it , as the new version comes in the market everyone is using Android, out of 10 people 8 of them are using Android, which is based on the latest version at least more that Android 4.0(Ice-Cream Sandwich), this application is based on Android so that everyone can use, the application is based on android and minimum requirement for the application is also Android 4.0, this is very user friendly application , so that anyone can use it, it shows all the details of the teams, which begins from the Front page which is the Homepage , which contains the Login and Register, every user has to register then only he can make full use of the application After the login it. All the details of the user is also shown in the application. The admin has the full control over the database and the application, he can edit or update any record of the application and even delete any user[3].

2.1 Implementation Environment

As Android application is an team management application it can be gotten to by any number of clients at once. Diverse clients from better places can enroll the application at the same time. They can login, enroll for the event. There is limitation for the quantity of client getting to the application. In any case, refreshing on the administrator side is permitted just a single client at a period and just the admin has the privilege to do it.

Modules Specification

The entire Android Application is divided into six modules as follows:

- ☐ Teams Tools
- ☐ Easy Navigation and Silent Features

- ☐ Administrative Control Center
- ☐ Event Management
- ☐ Update Team Member
- ☐ Timing and Winner Announcement

2.1.1 Security Features

Security is the condition of being protected against danger or loss. In the general sense, security is a concept similar to safety. So every application has to be secured against hackers or anonymous access of it. Our project contains two security features, of which one is password protection and the other is session state[4].

2.1.2 Password Protection

Every user who is to be allowed to access the project is given his own username and password and given his own access rights so that only authorized and authenticated users can access the project. Also the password is not directly stored in the database to prevent hacking.

2.1.3 Session State

The additional and the most efficient security feature that is added in this project is the session state. Every time a new user logs in, a new session is created. This session is specific for a particular user. All the transactions done by a user are found here. But once the user logs out, the session is cleared. Once the session is cleared, it can't be retrieved again. This minimizes the chances of hacking ones account or any other misuse. This becomes too safe as compared to other features because the sessions are unique.

Figure 2.1: Mobile App Development Features

2.2 Understanding lifecycle of an application

When developing an application, it's always necessary to update the components of lifecycle, e.g. adding items to Android Adapter dynamically, to see the working of this, we need to understand the lifecycle of Android Application.

It's a group of functions given by Android Application to instantiate, mount, render & update, unmounts, and also destroy components. This lifecycle helps to initialize, update the data in the right direction[5].

Looking at all the phases of lifecycle, In Android Application the lifecycle holds 3 main phases: mounting phase, updating phase and unmounting phase, which is in order as:
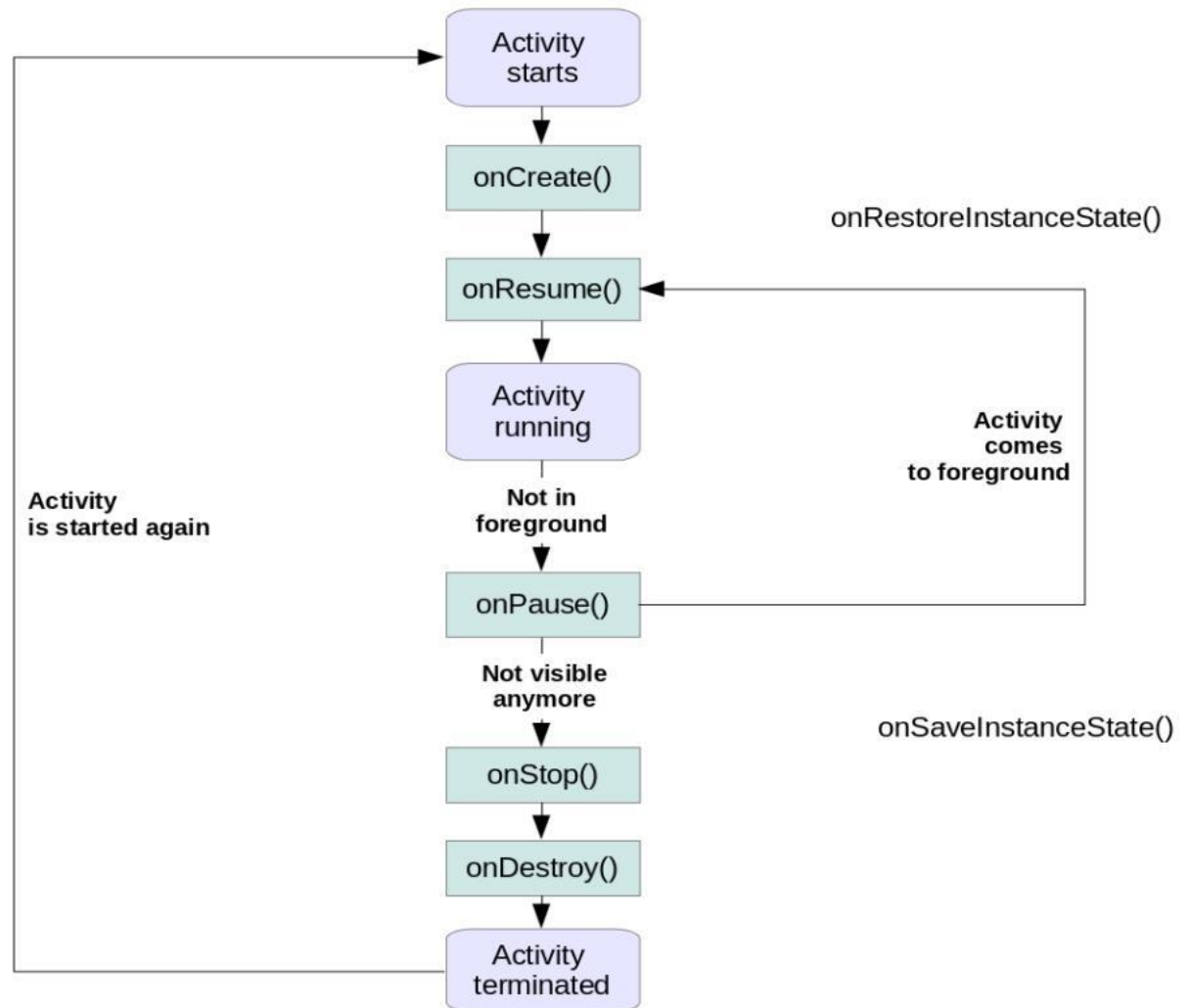
Figure 2.2: Lifecycle of Android Application

onCreate(): Called at the first time the operation is formed. All of your usual static setup should be done here: build views, add information to lists, etc. This approach also provides you with a package containing the previously frozen state of the activity, if one existed. OnStart() is always pursued.

onStart(): This function is called when the activity is visible to the end-user .

This method is followed by onResume for the first time it come from foreground and in Stop when it's not visible and stopped.

onPause(): Called when the event loses the state of the foreground, is no longer centered or stopped / hidden or lost before the transition. The operation remains visible to the user, so keeping it visually active and continuing to update the UI is recommended. Implementations of this method must be very quick because until this method returns, the next operation will not be resumed.

Followed either by onResume() (when the operation returns to the front, or by onStop) when it becomes invisible to the user.

onResume(): Called when the client communicates with the operation. Your activity is at the top of its system stack at this stage, with user feedback going into it. OnPause) (is always observed.

onStop(): Called when the client no longer sees the operation. This can either occur because a new operation is started on top, a current one is put in front of this one, and this one is demolished. Normally this is used to interrupt transitions, refresh the UI, etc.

Followed either by onRestart() (if the activity returns to communicate with the client, or by onDestroy) if the activity is gone.

onDestroy(): Until your operation is lost, the final call you receive This can occur either because the operation is finishing (someone naming it Activity finish), or because the device is temporarily losing it instance of space-saving activity. With the Activity Finishing method you can distinguish between these two scenarios[6].

2.3 Android Architecture

Before thoroughly understanding the improvement of android, we should thoroughly understand fundamental inward design. By knowing how things are orchestrated inside influences us to comprehend the application structure better. We can plan the application betterly. The android os depends on linux and it is really like linux. The accompanying figure shows the android engineering. Programming stack over the equipment that is given by the oems. Highest layer is the applications.
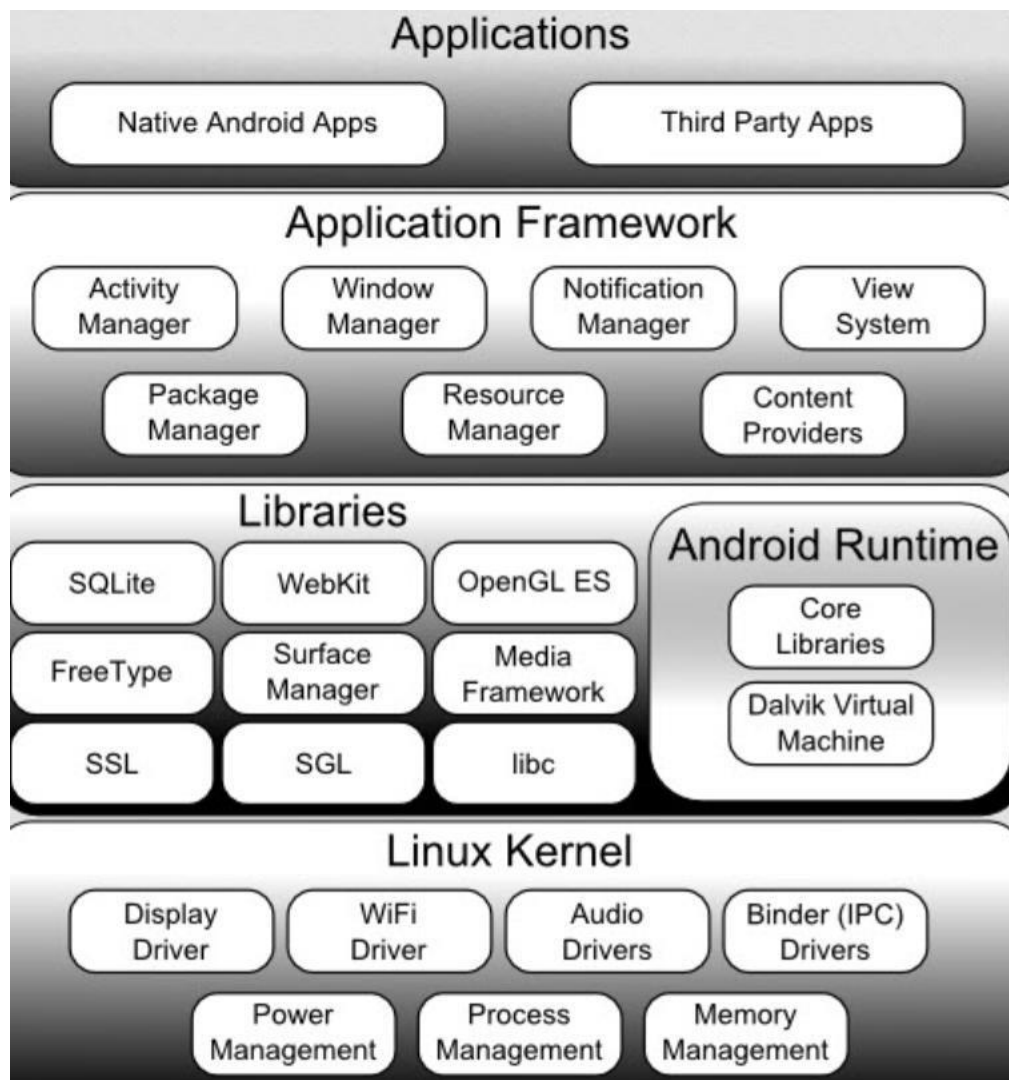

Figure 2.3: Android Architecture

Basic applications:

For instance, the above graph portrays four fundamental applications like application 1, application 2, application 3 and application 4 like any ui on android. Video player, calling application, a camera application, etc. These applications are not really from Google. You can build up an application and make it accessible to everybody with the help of Google play store. Applications are produced in java, introduced specifically, no compelling reason to incorporate with android OS.

Application framework:

Beneath the applications, we take application structure, application engineers can create android apps. The framework gives a gigantic arrangement of interfaces utilized by engineers for different principles, no compelling reason to code each fundamental undertaking. The framework comprises of various substances.

Action manager:

It deals with the exercises that administer the life cycle of operation and has a few states. They may have different exercises, with their own particular life cycles. In any case, there is one principle movement that begins when the application is started. Normally, every movement in an application is like a window which has its own UI and design.

Warning manager:

It empowers the application to make redid cautions.

Perspectives:

These are utilized to make designs, including segments, for example, matrices, records, catches.

Asset managers:

The apps do require outer assets, for example, illustrations, outside strings oversaw by the asset supervisor, which makes them accessible standardizedly.

Provider:

Applications shares information when they require. Every now and then, one application may require some information from an different application. The international calling application should get to the address book of client, access to information of another application's is empowered by the substance suppliers.

Libraries:

This layer holds all the local android libraries. These are composed in C/C++ and offers capacities like the application layer, sitting over the portion. These real local libraries incorporate

- Surface manager: compositing and display window-in director.

- Media system: video and audio positions and codecs, including their recording and playback.

- C system libraries: basic libraries of c like libc focused for arm or installed gadgets.

- Opengl es libraries: 3d and 2d illustrations.

- Sqlite: database motor.

Android runtime:

The runtime of android comprises of the dvk (dalvik virtual machine) which is essentially a virtual machine for implanted gadgets like other , virtual machine is a by tecode mediator. A virtual machine for implanted frameworks, it is less on memory, slow and keeps running on power control. It additionally comprises of the center libraries like j libraries of java and are accessible for every gadgets.

Kernel:

The android os is made from linux kernel 2.6 and accumulated for electronic hardware. Memory administration and process administration are comparable. The piece goes about as a hardware abstraction layer amongst equipment and the android programming stack.

2.3.1 Disadvantages and advantages of android operating system

Supports 3dimentional, 2dimentional graphics:

It underpins different stages like 2dimentional and 3dimentional. Prior we used to watch motion pictures and play diversions in nearly in 2dimentional, however these days different applications are utilizing 3dimensional design. To give diverse designs in recordings, amusements os should bolster 3dimensional arrange. Android underpins 2dimensional and 3dimensional organization to give a superior preferred standpoint in recordings and in recreations.

Figure 2.4: Android Supports Gaming

Multi language support:

Android underpins diverse dialects. We can say every popular dialect in regards to more than 100. By utilizing this element it is anything but difficult to receive to various dialects. Prior in the component telephones english is to be the main dialect in the cell phones.
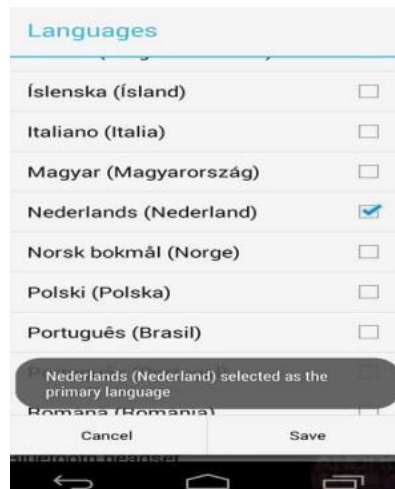
Figure 2.5: Android Supports Multiple Languages

Java support:

The java supporting component empowers designers to improve more highlights. As it bolsters java, working can be produced.

Quicker website browser:

As it empowered with web program we surf web effectively without multifaceted nature simply like in a pc. It effortlessly stacks mixed media with the goal that it makes web perusing quicker. It supports mp4, midi, mpeg4, 3gp.

It underpins diverse sorts of configurations. There is no compelling reason to change over starting with one configuration then onto the next, as it empowered with various arrangements of sound and video styles.

Extra support for hardware:

Any equipment can be effectively associated with the gadgets based on android effortlessly. We can influence a gadget to associate inside to get more highlights.

Video calling:

By the use of high speed data connection we can do video calls on an android device. By using android we can take advantage of new gen networks and bandwidths.

Figure 2.6: Android supports Video Calling

Open source framework:

A client can easily make their own particular apps and can roll out updates required for themselves. Fans can make andriod all the more effective and valuable by creating themselves. Because it is an open source working framework, we can utilize it effortlessly.

Very simple employments of tools:

It influences utilization of a solitary catch to accomplish more than relegated to work. For instance volume control catch can be made to capture a photograph by changing straightforward calculation in the android.

Accessibility of apps:

Anybody can influence use to part of free applications in the application store and from other android stores. It offers flexibility to introduce from outsider clients.

Extraordinary social networking integration:

Incorporation can be made to various long range interpersonal communication sites,so you can upgrade highlights. Allowed to tweak the applications and highlights, utilizing client empowered improvement.

Enhanced notification system:

It makes clients to check imperative notices straightforwardly from the home screen. It makes work simple. Prior we used to go for each app and refreshes it for any new notification.

Refreshed UI design:

Interfacing that implies human to machine reconciliation made to refresh in android. Touchscreen rolled out exceptionally helpful improvement in the portable utilize. It empowers tapping and zoom-in highlights which performs adequately in the working framework of android.

At a time applications:

Can run various apps which enable shoppers to enable spare to time & endeavors.

Minimal chance of crashing:

The android OS is exceptionally smooth and simple to work & minimal odds of smashing down.

Dependability:

Dependability and security is superior to different mobiles operating system as it depends on linux kernel. The linux based working framework empowered with high security with unix. Each operation goes into charge mode. On the off chance that recognized any security dangers it goes to fundamental mode by putting away to another application like distributed computing and crashes every one of the information on the gadget. You can modify your settings faster. Android rolls out quick improvements to settings. By empowering distinctive applications and

undertakings we can make utilization of android working framework. It gives you more options to fit your budget Android improves shoddy and gives execution for bring down expenses. It is open source and open structure.

Support for high resolutions & large screen sizes:

Android underpins and improved resolutions and better screen sizes for applications make clients more opportunity to appreciate brilliant and clear configurations.

Framework wide copy and paste functionality:

Prior we used to reorder in a similar application. Engineers thought to make entire telephone working as a pc based working framework. Android accompanied the framework wide reorder choice. It makes client to alter all the more effectively.

Updated multi touch keyboard:

Updated consoles like qwerty touch made clients to sort with more flexibility. Smart consoles rolled out tremendous improvements in the versatile writing consoles. It influenced word reference to adoptable and different highlights to like drag and distinguish made transformation. Input, graphical, audio enhancements for game developers Android rolled out different improvements in the sight and sound utilized for the cell phones. Distinctive sound improvements rolled out improvements to the sound quality.

Enhanced application control & power management:

It just enables current applications to expend ram memory & power. Different applications likewise will proceed out of sight to refresh. Subsequent to changing to application framework will distribute power & memory. With this technique, gadget can expend can spare memory & power in the framework. Support for various cameras.

2.3.2 Demerits of android operating system

Moderate reaction:

Contrasted with windows 8 of microsoft, 'ios' of apple. When we open same application in the windows 8 & ios. We watch the moderate reaction of the android when we open applications in the distinctive stages.

Warmth:

Contrasted with other working frameworks android makes utilization of procedures exceptionally productive. This makes its processor to get warm. Some equipment organizations take care to lessen heat, but it went futile when we work it quite a while and at low battery.

Ad:

When we utilize an android application we experience a few includes between application utilize, in light of the fact that anybody can make include by embeddings some rationale in the application program and can meddle in into the telephones data. This is about android working framework and the upsides of android working framework, which rolled out enormous improvements in most recent five years. Practically every advanced mobile phone, tablet and electronic gadget utilizing android working framework. It is easy to understand and open source to create. It gives heaps of preferences so it as of now pulled in more than one and half billion users. Furthermore, any questions with respect to this article or android based tasks, please give your important proposals by remarking in the remark area beneath.

Chapter 3

MATERIALS AND METHODS

3.1 Android

Android is a mobile device application operating system which gives developer more options to make innovative applications, middleware and main features. Google purchased Android Inc. in 2005, and two years later, in partnership with the Open Handset Alliance community, launched Android OS. The main features of the Android operating system are: allows free download of application development environment. It gives a global repository play store to download the various application developed all over the globe.

Also it provide developer a android studio a well tailored compiler to build test and deploy app from a single interface it also give developer Virtual phones so that we can test application using virtual phones of different size and shapes , also it give memory profiling to the developer to make application development more efficient. It also provide same privileges to access the core component of the device and give a high level of customisations. Followed by optimized memory use and automated monitoring of running applications.

Android Emulator Android Emulator is utilized to run, investigate and test the android application. In the event that you don't have the genuine gadget, it tends to be the most ideal approach to run, troubleshoot and test the application[7].

It utilizes an open source processor emulator innovation called QEMU.

The emulator apparatus empowers you to begin the emulator from the direction line. You have to compose:

emulator - avd <AVD NAME>

If there should be an occurrence of Overshadowing IDE, you can make AVD by Window menu > AVD Administrator > New.

3.1.1 Services

A service can essentially take two states –

An administration has life cycle callback techniques that you can actualize to screen changes in the administration's state and you can perform work at the fitting stage. The accompanying outline on the left demonstrates the existence cycle when the administration is made with startService() and the chart on the correct demonstrates the existence cycle when the administration is made with bindService().

Figure 3.1: Mobile App Development Tools

3.2 Java

"oak" was the initial name of the language yet renamed java".the essential inspiration of oak was the requirement of a architecture neutral language that could be utilized in making programming to be installed in different gadgets. Java has profoundly affected the internet. This is on account of; java grows the world of articles that can move about uninhibitedly in

internet. In a system, two classes of articles are communicated among the server and the pc. They are inactive data and active projects. In the regions of security.

1. Java is organized & consistent
2. Java is a programmer's language

In the year of 1991, under the guidance of james gosling sun microsystems developed a new programming language called as java. A program once written in java can be run on a variety of platforms available in the market. In the year 1995 java 1.0 was released for the first time to the public by sun microsystems. Oracle corporation in 2010 acquired the sun microsystems. Now oracle handles all the rights for java. Under the gnu general public license (gpl) in 2006 sun microsystems made java available as open source language. Openjdk was the name of the umbrella under which oracle continued to make java as an open source language.newer and more optimised versions of java have been released over time. The current version of java is java 1.8 which is also known as java 8.java as a programming language basically constitutes of core components. The first component being the compiler. The java compiler first converts the given java file (with an extension .java) to byte code (a file with .class extension is created). Byte code are encrypted codes which can only be understood by the java virtual machine. The java virtual machine has various components inside it to decrypt and make the operating system understand the byte code. The first component that comes into play is the class loader. As the name suggest this component is responsible for loading the current class contain the main method followed by other classes in the main memory of the system. The next component that follows is the byte code verifier. This components principle duty is to verify the sequence of the byte code and raise a flag if any suspicious is attained by this component. The following component is called interpreter and its main job is to convert the encrypted byte code line by line to machine code understandable by the operating system. The java run time environment (jre) houses the java virtual machine(jvm) and provides a controlled environment for java run time machine to perform its actions by using the above-mentioned components. The java development kit (jdk) comprises of special tools used by developers. This tools include the javac the compiler, jar used to compress libraries and classes into one file and many more.

Java is one of the main languages in computers which is purely based on object oriented. It has having many features which has been found in c++. It is a platform independent language which also means that it provide the features to the consumer and user of "write once and run everywhere" in this language a user or a programmer can run his code on any system writing it once on any system. It is nothing but a set which consist many computer software and all the specifications are developed by james gosling sun microsystem in 1995, which lately was acquired by renowned corporation of oracle which provides it a system to develop the software for the application and then also deploying it in a computing environment of cross platform. Today we have a lot of the software which has implemented by the java.

Java is mostly and most commonly used in a broad spectrum of computing platforms that include integrated equipment on cell phones and supercomputers, as well as company computers. These are now less prevalent than other standalone java applets, and were most commonly used in a safe sandbox setting to provide many characteristics of native applications that are integrated in any html site. Java compiler complete the compilation and then it interprets the source code and then generates binary code that is machine understanding code that can be directly run by java run time environment JRE that is called the java runtime environment. Since we know that this code which is platform independent and it can be taken to any other system that we use ,we work on. Now this java features enables all the programmer to modify or develop the programs of the browser. Actually, java now provides high number of applets that is cacheable applets and the applications. As we know each and every thing in java is representation of objects. All the related data and objects are resets inside the objects and the classes. It provides a lot of safeguard, it has also the strictly run time and also compile times checking. Java basically provides safeguards to the code written which is designed as a garbage ,waste collected languages which relieving the programmers all the problems related to the memory management. Writing code in the programming language java .the primary way to produce code is that will be deployed as binary code in a machine called (JVM). You can also use this language to do web-based programs. The java development kit is a sun microsystem item that is essentially directed at

java designers. Since java's first acknowledgement, it has been by far the most famously, unanimously, and commonly used development kit (SDK) for java software and other software which supports the java language. It also includes a java compiler, a complete replica of the java runtime environment, and the many other development tools that are important. Java is fully objected oriented language and platform independent language. Java is highleved programming, strong and secure language. Java is also say a platform independent language because java has self-running environment called java runtime environment (JRE).jre consist of jvm (java virtual machine) and other core libraries they are required for run the java programme. Java is useful for creating the various types of applications. Applications like are:-

1. Desktop based application.

2. Web based application.

3. Enterprise level application.

4. Games

Java support the concepts of :

- Data abstraction and encapsulation
- Polymorphism.
- Inheritance.
- Dynamic binding.

3.2.1 Types of java application

1. **Standalone application:**

   Standalone accessing application are also called desktop based application or say window based application. For the application we need first install this application on every machine.awt and swing are used for creating the desktop based application.

2. **Web application:**

   An application that runs on a server and the interface are made they the help of the html, css.the pages are dynamic in nature because they run on the server side every

time updated pages are fetched. We using the struts, servlet, JSP, spring and hibernate technology for creating the web based application by java.

3. **Enterprise level application:**

Enterprise level application are those application in distributed in nature like a banking system ,organization managing software's generally used in MNC(multi-national companies).we use generally EJB(enterprise java beans) for creating this type of applications.

3.2.2 Features of java

1. Simple
2. Portable
3. Object-oriented'
4. Platform independent
5. Secured
6. Robust
7. Multithreaded
8. Distributed

1. **Simple:**

Learning of a java is very task and the syntax of java is simple, clean and understandable.acorrding to sun microsystem, java is simple programming language because:

- Syntax of java is very similar to c++ and generally programmers read java after c++.

- Java is avoid many complex features of object oriented programming like operator overloading or explicit pointers.

- Java supports automatic garbage collection.

2. **Portable:**

   Java code is portable first we compile a code they converted into byte code and we carry this bytecode and by the help jvm our code is converted into machine code bytecode are platform independent but the machine code is machine dependent codes.

3. **Object oriented:**

   Java is completely object oriented programming language. Everything in java is an object. Object oriented meaning we organized our application in a form of different form objects and objects both consist data and behavior.

   Java supports most important concepts of object oriented programming. The major concepts of oop's are:-

   1. Object
   2. Class
   3. Encapsulation
   4. Inheritance
   5. Polymorphism
   6. Abstraction

   That reason we usually called java is dynamic language.

3.2.3 JRE

   JRE is a short form of java runtime environment. Some books written jre is written as java rte. Java runtime environment is kit of software tools they are very useful for developing various types of java application. It also provide a runtime environment. It is implementation part of the jvm.jre is physically exist.jre consist set of libraries plus other files that are useful of the jvm at the time of the runtime environment.

The java runtime atmosphere or JRE is that the product needed to run any application sent on the java platform. End-clients usually utilize a HRE in programming bundles and net program module. Sun in addition appropriates a superset of the JRE referred to as the java a pair of SDK (all the additional unremarkably called the JDK), which includes improvement devices, for instance, the java compiler, java doc, and program.

3.2.4 JDK

Java development kit is long form of the JDK. JDK is a software development environment which are very useful develop java applications and applets. It is also physically exist and they consist both JRE plus all required development tools. JDK consist a private JVM and other few resources like interpreter or a loader, a compiler, an archiver etc. They are used to develop an application.

3.2.5 Exception Handling

We use the wonderful concept of java exception handling in our project. The exception handling is most important mechanism to handle all type of run time errors because if the exception is occurred in the java code not a java any programming language the flow of execution of program is disturbed that time exception handling are responsible to maintain the normal flow of the execution of the program. Now we also discuss what is exception in an exception meaning present in dictionary is exception is an abnormal situation.

In java exception create an event that reason flow of execution of the code is disturbed and a good programmer responsibility to maintain the flow of the program at any cost.

Now enlist what types of exception are generally occurs are:-

- ☐ Classnotfoundexception
- ☐ Io exception
- ☐ Sql exception
- ☐ Remote exception etc.

In a java there are two types of exception are:-

1. Checked exception
2. Unchecked exception

Checked exception

Checked exceptions are those exception they are checked at the time of compilation of code. Check exception uses throwable class by concept of the inheritance but except runtime exception are errors. The checked exceptions are:-

- Io exception
- Sql exception

Unchecked exception

Unchecked exceptions are those exception they are not checked at the time of compilation code but they are checked at runtime. Unchecked exception uses runtime exception by concept of the inheritance. The unchecked exceptions are:-

- Arithmetic exception
- Null pointer exception
- Arrayindexoutofbound exceptions

Now we discuss some important keywords of exception handling. Keywords are:-

- Try
- Catch
- Finally
- Throw
- Throws

Try: We usually called try block in the try block we place those code they are responsible for creating an exception. After every try block we write an either finally or catch block is mandatory. We don't write try block alone.

Catch: We usually called catch block. Catch block is responsible to handle the exception. It write after a try block that means a catch block is not placed alone. After catch we write a finally block.

Finally: We called a finally block. Finally block is responsible for execute an important part of the code at any cost means exception is occurred or not occurred those code written in finally as they always run or say execute.

Throw: throw keyword is responsible throw an exception.

Throws: throws keyword used for declare the exceptions generally the checked exceptions. It is not responsible to throw an exception. It is written on those functions in which h a chance of exception is occurred is most probable. It is always written with the signature of the function.

3.2.6 Multi-Threading

We use the multi-threading part in our project. Now firstly discuss what is multithreading. Multithreading is a mechanism by help we executing multiple number of threads concurrently or say simultaneously. Generally we say thread is a light weighted sub part of the process and or say the smallest portion or generally small unit of process.
In a multithreading threads use a common shared memory area.

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In a multithreading threads use a common shared memory area. In a threads we not allocate a separate memory area so that reason we save the memory and context switching with in the threads take a less time in compare of process.

Java multithreading is used for creating a games and animation application etc. In a threads we not allocate a separate memory area so that reason we save the memory and context switching with in the threads take a less time in compare of process. Java multithreading is used for creating a games and animation application etc.

3.2.7 Synchronization

Synchronization is very important concept at that time multiple threads a share a same resource .now a arise in your mind why we use synchronization, I explain you at that

multiple instance of process say thread a same resource at that time inconsientency of the data is occurred that time we need a concept by the help we control all the threads that time they share a common resource and the consistency of data is maintain in any cost. We used the synchronized keyword after any method we declare a synchronized function by help of synchronized methods of we lock all the objects that use this methods. That reason we maintain consistency of the data and the only one shared resource is used.

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3.2.8 Aspects of java programming language

Platform independent

With the help of java virtual machine the java programmer use it as a container and hence do not directly interact with the operating system. Following which makes the java program highly distributable in nature. Java program in a way work independent of the operating system and machine architecture they are currently being deployed on.

Object-orientated programming language

Java programming language is also sometimes referred to as an example of pure object oriented. Due to the fact such as it does not have multiple inheritance and many more.

Strongly-typed programming language

The writing convention used for declaring variables, classes and methods are pretty

strict and programmers are supposed to follow them at all times. Example- class name always begins with a capitalalphabet.

Interpreted and compiled language

The compiler in java firstly compiles the .java file into byte code that forms the .class file. Later a component in the java virtual machine after the byte codes have been verified, the interpreter comes to do its job and interpret the byte code according to the machine architecture.

Automatic memory management

One of the most interesting property of java is that it doesn't provide programmer with the direct access to pointer unlike its previous predecessors and hence the user cannot make direct changes in the memory using this language.

In general, we all know this is a programming language and a Platform-independent. It is highly secured, simple and robust language. The basic purpose of this language was, "Write Once, Run Anywhere" (WORA). Java was developed by "SUN Microsystem" later acquired by "Oracle corporation", which runs on the basis of OOPs concept.

Java has been used in this project just to clear the concept for advance java because of its following advantages: Java consists of very well maintained and understood libraries which help the developers.

Java compiler is an example of JIT i.e. Just In Time. High performance of JVM i.e. Java virtual machine enables java to be called as platform independent language. The Java memory model is perfect when it clears the space possessed by a field or method when they are no more in use for a drawn out stretch of time. After the compilation, it makes **.class** file which can run on any platform.

Java is a protest situated programming dialect created by James Gosling and associates at Sun Microsystems in the mid 1990s. Dissimilar to regular dialects which are for the most part planned either to be aggregated to local (machine) code, or to be translated from source code at runtime, Java is expected to be accumulated to a byte code, which is then run (by and large utilizing JIT arrangement) by a Java Virtual Machine.

There were five essential objectives in the formation of the Java dialect:

- It should utilize the question arranged programming philosophy.
- It ought to enable a similar program to be executed on numerous working frameworks.
- It ought to contain worked in help for utilizing PC systems.
- It ought to be intended to execute code from remote sources safely.
- It should be easy to use by selecting what was considered the good parts of other object-oriented languages[8].

Java was intended to be simple for the developer to learn and utilize adequately. In the event that you have any past programing background, it is anything but difficult to learn java. On the off chance that you as of now comprehend the essential idea of item arranged programming, learning java will be significantly less demanding. Best of all, in the event that you are an ordeal c++ developer, moving to java will require almost no endeavors. Since java acquires the c++/c sentence structure and a large number of the oh no elements of c++, most developers experience little difficulty learning java.

3.2.9 Object orientation

The primary trademark, protest introduction ("OO"), alludes to a strategy for programming and dialect plan. Despite the fact that there are numerous elucidations of OO, one essential recognizing thought is to plan programming so the different sorts of information it controls are consolidated together with their pertinent operations. Accordingly, information and code are consolidated into substances called objects. in spite of the fact that impacted by its past dialects, java was not intended to be source code good with whatever other dialect. This alot the java group the opportunity to plan with a clear slate. One result of this was a spotless, usable even minded way to deal with item. Obtaining generously from numerous original item programming environment of the ast couple of decades, java, figures out how to strict a harmony between the perfectionist's "beginning and end is an article" worldview and the sober minded thinker's "stay out of my way" worldview. The item situated model in java is basic and simple to expand, while primitive sorts, for example, numbers, are kept as superior non object. Object arranged programming (oh no) is modifying dialect model in which the essential element is "articles", the configuration of item situated writing computer programs is that we control the protests as opposed to the rationale. Uh oh recognize every one of the

articles are there in the code and how they are associated with each other. The ideas that item situated gives are:

1. concept of data class helps in characterizing sub-classes of information protests that have same or some property of the base class qualities is called legacy .this property of uh oh diminishes the code length and improves the code.

2. With the idea of uh oh it makes another information sort which is not as of now exist in the dialect.

3. The code in uh oh is reusable not for the software engineer but rather likewise for other article situated projects.

3.2.10 Platform independence

The second trademark, stage autonomy, implies that projects written in the Java dialect must run correspondingly on assorted equipment. One ought to have the capacity to compose a program once and run it anyplace. This is accomplished by most Java compilers by aggregating the Java dialect code "most of the way" to byte code (particularly Java byte code)— streamlined machine guidelines particular to the Java stage. The code is then keep running on a virtual machine (VM), a program written in local code on the host equipment that deciphers and executes bland Java byte code. Further, institutionalized libraries are given to enable access to highlights of the host machines, (for example, illustrations, threading and organizing) in brought together ways. Despite the fact that there's an express ordering stage, eventually, the Java byte code is deciphered or changed over to local machine guidelines by the JIT compiler.

3.2.11 Robust

The multi- plateformed environment of the web, unprecedented requests on a project, on the grounds that the project ought to execute dependably in an assortment of framework. In this way, the capacity to make powerful projects was given a top need in the configuration of java. To pick up dependability, java confine you in a couple key territories to drive you to locate your ahead of schedule in system improvement. In the meantime, java liberates you from worrying from a significant number of the most reasons for programing blunders. Since

java is an entirely written dialects, it checks your code at gather time. Be that as it may, it likewise checks your code at runtime. Numerous difficult to find bugs that regularly turn in difficult to replicate runtime circumstance are unrealistic to make in java. Realizing that what you have composed will act in an anticipated under different condition is a key component of java.

3.2.12 Multithreaded

Java was intended to meet this present reality necessity of intended to react to the activities, arranged projects. To achieve this, java support multithreaded programing, which permits you to compose programs that performs numerous undertakings at the same time. The java runtime framework accompanies an exquisite yet complex answer for multiprocess synchronization that empowers you to develop easily running intuitive frameworks. Java's gives simple to utilize way to deal with multithreading permits you to consider the particular conduct of your system, not the multitasking subsystem.

3.1.13 Distributed

Java is intended for the circulated environment of the web since it handles tcp/ip conventions. Truth be told, getting to an asset utilizing a url is very little not quite the same as getting to a record. Java likewise bolsters remote strategy conjuring. This element empowers a project to summon techniques crosswise over on web.

3.2.14 Architectural Neutral

A focal issue for the java planners was that of code life span and compactness. One of the fundamental issue confronting programmers is that no insurance exists that in the event that you compose a project today, it will run tomorrow, even on the same machine. Working framework redesigns processors overhaul, and changes in center framework assets would all be able to consolidate to make a system breakdown. The java originators settled on a few hard choices in the java dialect and the java virtual machine trying to adjust this circumstance. Their objective was "compose ones; run anyplace at whatever time until the end of time, as it were, this objective was proficient.

3.2.15 Portability

Portability is a measure part of the web in light of the fact that there are a wide range of sorts of pc and working framework associated with it. On the off chance that a java project were to be keep running on for all intents and purposes any pc associated with the web, there should have been some approach to empower that system to execute on various framework.

3.2.16 NetBeans

Netbeans is nothing but a integrated development environment known as (ide) for java. Netbeans allows many of the java applications to developed from a bunch of modular software components which are generally known as modules. Netbeans can easily runs on windows, or the macos, linux and solaris. In addition to java development, it also has the extensions for other languages like many other languages called php, c++, ,and javascript ,html,etc . The other apps which based on Netbeans, including this Netbeans ide, can easily be extended by any third party developers. In netbeans there is a feature where the user does not have to create the java path or they can easily create the class file in a file itself so as to reduced the errors. It shows the error description and add the package automatically also it removed the unused concept used in the class file. This will divide our projects on the basis of the design also here we use the dropdown feature also.

3.3 FireBase

When the Firebase API is included in android or iOS application, you can let firebase features with simple code rows. Here's how to add firebase to the Android application, as described in the next section. Fire-based services are listed below:

3.3.1 Firebase

Google Firebase is a Google-supported application advancement programming that empowers designers to create iOS, Android and Web applications. Firebase gives devices to following examination, detailing and fixing application crashes, making showcasing and item try. Firebase offers various administrations.

3.3.2 Analytics

Google Analytics for Firebase offers free, boundless providing details regarding upwards of 500 separate occasions. Investigation presents information about client conduct in iOS and Android applications, empowering better basic leadership about improving execution and application showcasing.

3.3.3 Authentication

Firebase Authentication makes it simple for designers to assemble secure confirmation frameworks and improves the sign-in and onboarding background for clients. This component offers a total personality arrangement, supporting email and secret word accounts, telephone auth, just as Google, Facebook, GitHub, Twitter login and the sky is the limit from there.

3.3.4 Cloud informing

Firebase Cloud Messaging (FCM) is a cross-stage informing instrument that lets organizations dependably get and convey messages on iOS, Android and the web at no expense.

3.3.5 Realtime database

The Firebase Realtime Database is a cloud-facilitated NoSQL database that empowers information to be put away and matched up between clients progressively. The information is synchronized over all customers continuously is as yet accessible when an application goes disconnected.

3.3.6 Crashlytics

Firebase Crashlytics is a continuous accident journalist that enables designers to follow, organize and fix strength gives that lessen the nature of their applications. With crashlytics, designers invest less energy sorting out and investigating accidents and additional time building highlights for their applications.

3.4 Database

A database is an alternate application that stores an aggregation of data. Each database has no less than one unmistakable APIs for making, getting to, supervising, looking and rehashing the data it holds. Diverse sorts of data stores can in like manner be used, for instance, records on the record structure or far reaching hash tables in memory however data getting and forming would not be so fast and basic with those sort of structures. Nowadays, we use social database organization structures (RDBMS) to store and direct gigantic volume of data. This is called social database since each one of the data is secured into different tables and relations are developed using basic keys or diverse keys known as Foreign Keys.
A Relational Database Management System (RDBMS) is an item that –

- Empowers you to execute a database with tables, areas and records.
- Ensures the Referential Integrity between sections of various tables.
- Updates the documents thusly.
- Translates a SQL question and combines information from various tables.

3.4.1 MySql

MySql ,it is an open source relational database management system (rdbms). It is the abbreviation for structured query language. Mysql is open source software under the terms of the general public license gnu which was laterly bought by sun microsystems. In mysql we have stored the data of the new consumers and about the details of all the customers like the meter number and the unit consumed and also the private deatil of the customers also feeded in the system which is store in the data base and the administration can also retrieve the data

at any point of time also they can update delete and edit the details of the customer. For that we have to connect our file or we have to take a connection which will join the software with data entries. MySQL is the most well known Open Source Relational SQL Database Management System.).

It is a structured query language. MySQL is outstanding amongst other RDBMS being utilized for creating different online programming applications. MySQL is produced, showcased and upheld by MySQL AB, which is a Swedish organization. This instructional exercise will give you a fast begin to MySQL and make you OK with MySQL programming. A database may be a collection of connected information organized in an exceedingly method that information is simply accessed, managed and updated. Any piece of data is information, as an example name of expert. Database is actually an area wherever connected piece of information is hold on and varied operations are performed on it. This is a free software, simple to use and has fast downloaded.

MySQL is a central component of all the open source application software like LAMP, WAMP, XAMPP. Applications like Joomla, PHP, WordPress uses MySQL for database management. We can simply query a database for specific information and have a record set returned. In PHP to connect Database with it we use "mysql-connect()" function.

Syntax to connect database in PHP: -

 mysql-connect(Server name, username, password);

It is written in C, C++ programming language, it's SQL parser is written in YACC, while it uses a home-browsed lexical analyzer.

We can create, delete and update database using MySQL using the "mysql-query" function. PHP provides "mysql_select_db" function to select a particular database.

Features: -
- ☐ It supports cross-platform.
- ☐ Triggers.
- ☐ It provides facility of updatable views.
- ☐ It has an information schema.
- ☐ It contains Query caching.

☐ It has embedded database library.

☐ It consists of multiple storage engines

3.5 Performance

Firebase Performance Monitoring administration gives engineers knowledge into the presentation qualities of their iOS and Android applications to enable them to figure out where and when the exhibition of their applications can be improved.

Firebase Services can be divided into three groups:

☐ **Cloud Functions :** Firebase Cloud features allow you to automatically launch the backend code in response to firebase and HTTPS queries running events. Your code is in the clouds of Google and is operated in a managed environment. You do not have to manage and scale your servers.

☐ **Crash Reporting :** Fire Crash Reporting Feature creates reports of errors in your app after it was released. Errors are grouped in different groups depending on how difficult the error is. You can also create custom events to capture steps that cause the program to be dropped.

☐ **Cloud messaging :** Firebase Cloud Messaging (FCM) is a platform solution that enables you to reliably deliver messages for free.

3.6 Testing

Testing is the procedure completed on programming to identify the contrasts between its conduct and the coveted conduct as stipulated by the prerequisites particulars. Testing is beneficial in a few ways. Initially, the imperfections discovered help in the procedure of making the product dependable. Also, regardless of the possibility that the imperfections found are most certainly not revised, testing gives a thought as to how solid the product seems to be. Thirdly, after some time, the record of deformities discovered uncovers the most widely recognized sorts of imperfections, which can be utilized for creating fitting preventive measures, for example, preparing, appropriate outline and surveying.

Testing is also performed on the live users face as soon as the user comes in-front of

the app opened in the mobile, it automatically detects the users facial expression and proceeds further according to it[9].

3.6.1 Testing Plan

The testing sub-process includes the following activities in a phase dependent manner:
- ☐ Create Test Plans.
- ☐ Create Test Specifications.
- ☐ Review Test Plans and Test Specifications.
- ☐ Conduct tests according to the Test Specifications, and log the defects.
- ☐ Fix defects, if any.
- ☐ When defects are fixed continue from activity.

3.6.2 Testing Strategy

The advancement procedure rehashes this testing sub-process various circumstances for the accompanying stages.
- ☐ Unit Testing.
- ☐ Integration Testing
- ☐ System Testing
- ☐ Acceptance Testing.

Unit Testing tests a unit of code (module or program) in the wake of coding of that unit is finished. Incorporation Testing tests whether the different projects that make up a framework, interface with each different as wanted, fit together and whether the interfaces between the programs are right. Framework Testing guarantees that the framework meets its expressed outline determinations. Acknowledgment Testing will be trying by the clients to discover whether the framework created is a right usage of the Software Requirements Specification. Testing is done in such a progressive way to guarantee that every part is right and the get together/mix of parts is right. Simply testing a whole system at the end would most likely throw up errors in components that would be very costly to trace and fix.

3.6.3 Black Box and White Box Testing

In black box testing a software item is viewed as a black box, without knowledge of its internal structure or behavior. Possible input conditions, based on the specifications(and possible sequences of input conditions), are presented as test cases. In white-box testing information of inward structure and rationale is misused. Test cases are exhibited with the end goal that conceivable ways of control move through the product thing are followed. Thus a bigger number of deformities than discovery testing are probably going to be found. The disadvantages are that exhaustive path testing is infeasible and the logic might not conform to specification. Instrumentation techniques can be used to determine the structural system coverage in white box testing. For this purpose tools or compilers that can insert test probes into the programs can be used.

3.6.4 System Testing

The aim of the system testing method was to see all defects in our project. The program was subjected to a set of inputs and numerous observations were created and supported these observations were created and supported these observations it'll be set whether the program behaves as expected or not. Our Project went through 2 levels of testing one.

- ☐ Unit testing
- ☐ Integration testing.

3.6.5 Unit Testing

Unit testing is undertaken once a module has been created and successfully reviewed. In order check one module we want to provide whole surroundings that are beyond the module we'd need

- ☐ The procedures belonging to different modules that the module below takes a look at decisions.
- ☐ Nonlocal information that module accesses.
- ☐ A procedure of calling the functions of the module below test with appropriate parameters.

3.6.6 Testing Principles

While choosing the concentration of testing exercises, ponder venture needs. For instance, for an on-line framework, give careful consideration to reaction time. Invest more energy in the highlights utilized every now and again.

Decide on the exertion required for testing in view of the use of the framework. In the event that the system is to be utilized by an expansive number of clients, assess the effect on clients due to a system disappointment before settling on the exertion.

- A essential piece of the experiment is a meaning of the normal outcome.
- Write test cases for invalid and startling and in addition substantial and expected information conditions.
- Thoroughly examine the consequences of each test.

3.7 XML

- The tags used to markup HTML documents and the structure of HTML documents are predefined. The author of HTML documents can only use tags that are defined in the HTML standard. XML allows the author to define his own tags and his own document structure.
- XML remains for Extensible Markup Language
- XML is a markup dialect much like HTML.
- XML labels are not predefined in XML. You should charcterize your own particular labels.
- XML was intended to portray information.
- XML utilizes a DTD (Document Type Definition) to formally portray the information.
- XML is a markup dialect much like HTML.

3.8 Github

GitHub is a platform for facilitating Git repositories which is online and is the biggest host of source code on the planet with in excess of 15 million clients. Git itself is a command-line device for rendition control which was created in 2005 by Linus Torvalds, the maker of Linux. With Git, the engineer can follow the progressions done to the code by as often as possible submitting the project. At the point when a submit is done, Git takes a preview of the code and stores the changes.

The aftereffect of this is a surge of adaptations of the task which the engineer can roll back as well and gives security as the designer doesn't need to stress over breaking the code. Moreover, branches can be made and combined which permits various properties of the project being grown independently and joined when finished.

GitHub lets the developer commit the changes made in the code and upload it on the repository with the latest time and date and also with the tag lines of what actually the changes have been made. It gets easier to develop any project in a group using GitHub since it gives the option to push or pull the code before any updates have to be made.

There are different commands that GitHub uses:

git config

This command is used to set the user name and email.

git status

This command is used to check the latest updates or changes made to the code.

git commit -m "integrated a signup page"

This command is used to give your updates a message so that there occurs no confusion for other developers.

git add *

This command adds all the files to the GitHub.

git Pull

This command pulls all the files in the user system

3.9 DOM Architecture

DOM addresses Document Object Model. DOM control is basic for current sharp web advancements. It is reliably called the focal point of the pushed web. It is an impression of the dealt with substance. By the by, it works more deferred than other JavaScript operations in light of the way that most JavaScript structures if all else fails update the DOM paying little personality to whether they don't have to do it. That recommends those updates are less required to play out the activities at any rate despite all that they do as a have any kind of effect clearly.

For instance, le we consider expect there are around nine things which have been set up in a shopping bushel in an online web/application store. Direct let us state just the basic concern is required to purchase and keep on checkout. Here, most advances would re-endeavor the whole outline that has been set for the situation. This incites the structure needs to unnecessarily handle different events more. In light of just one change the structure needs to reproduce the outline absolutely how it was by at that point.

Respond didn't make Virtual DOM yet uses and offers it to the coordinator main impetus to no end. Virtual Dom is basically an impression of HTML DOM. Respond has a relating virtual DOM object for each DOM thing like a maker or a lightweight duplicate. Virtual DOM is in like way illustrated with inside and out that truly issues obscure properties to a veritable DOM. Everything thought of it as, can't uncover any updates genuinely to the view. DOM control is a huge moderate starcess. Regardless, controlling Virtual DOM is snappier in light of the manner by which that it has nothing to do with the view part and doesn't uncover any trips to the screen. Figure 4, republished from stacko-verflow.com, is an arrangement of Virtual DOM in the memory.

Respond didn't make Virtual DOM yet uses and offers it to the modeler virtuoso to no end. Virtual Dom is basically an impression of HTML DOM. Respond has a relating virtual DOM object for each DOM thing like a maker or a lightweight duplicate. Virtual DOM is in like way laid out with all around that truly matters unclear properties to a legitimate DOM. Adventitiously, it can't uncover any updates truly to the view. DOM control is a titanic moderate starcess. Regardless, controlling Virtual DOM is snappier in light of the manner by which that it has nothing to do with the view part and doesn't uncover any trips to the screen.

Chapter 4

RESULTS AND DISCUSSION

4.1 Software requirement

- Operating system-windows 7,8,10

- Android Studio

- Java

- Hosting (GoDaddy)

- Php MyAdmin
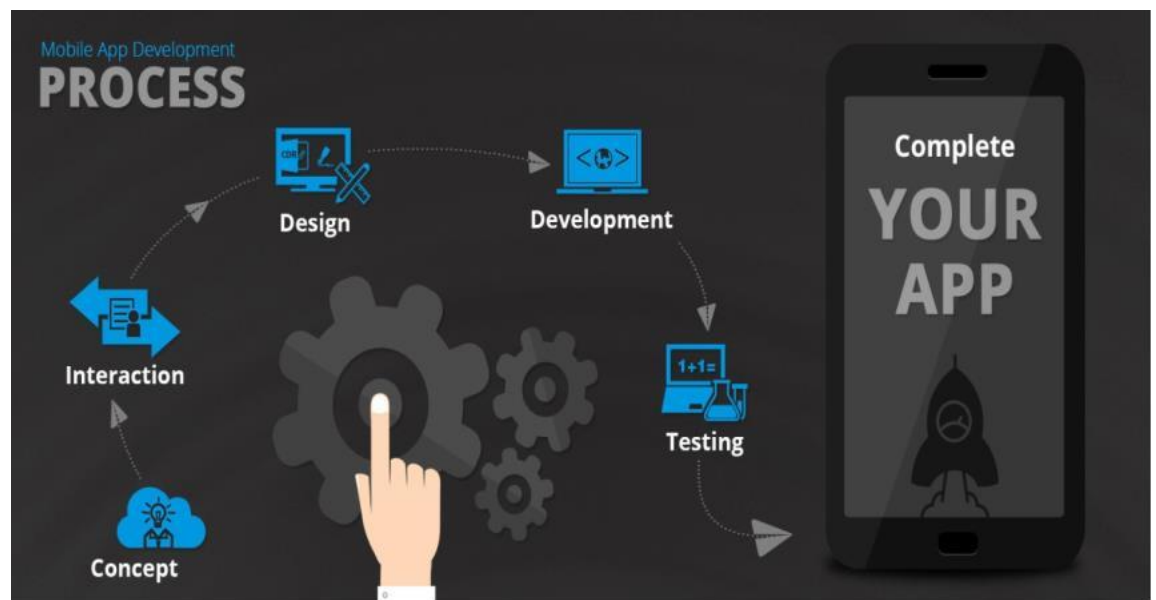
- Php (Script for Connectivity)

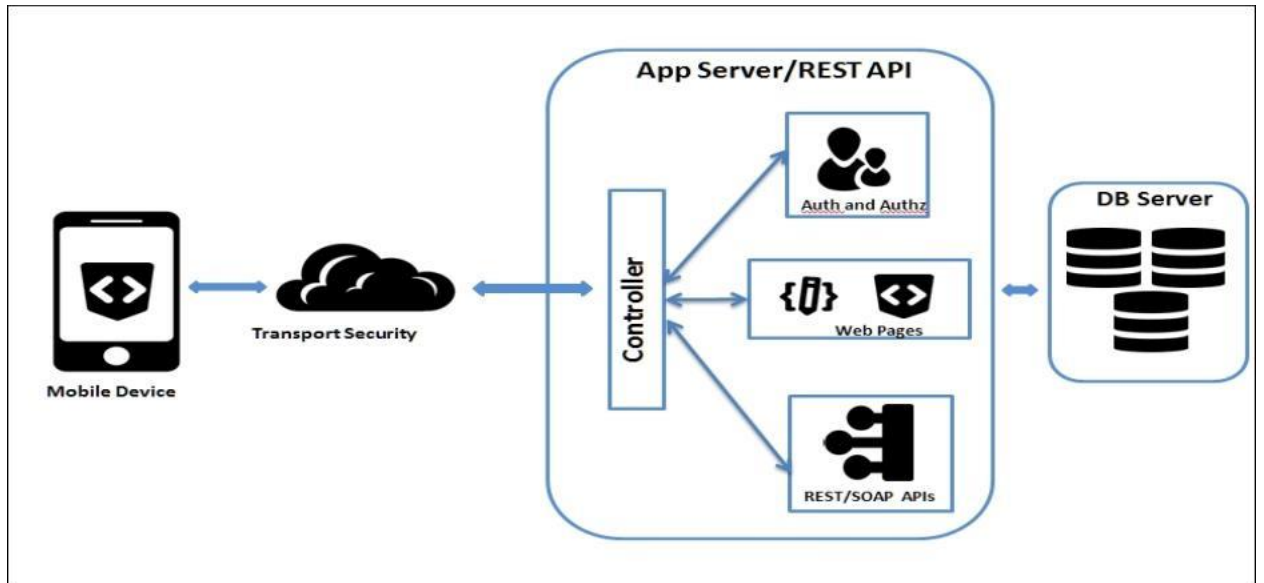Figure 4.1: Application Development Process

Figure 4.2: Application Architecture

Figure 4.3: Product Screenshot 1

Figure 4.4: Product Screenshot 2

Figure 4.5: Product Screenshot 3

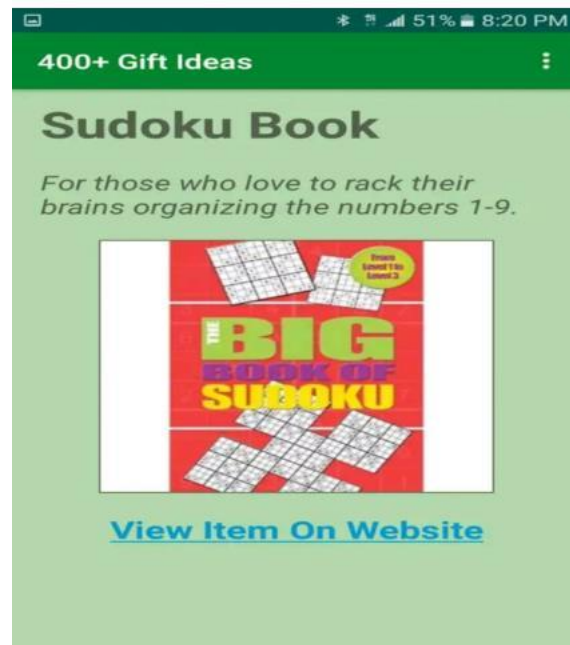Figure 4.6: Product Screenshot 4

Figure 4.7: Product Screenshot 5

Figure 4.8: Product Screenshot 6

Figure 4.9: Product Screenshot 7

Chapter 5

CONCLUSION AND FUTURE PROSPECTS

Portable applications have become a fundamental part of our day by day life because of the different functionalities that they offer. Building an effective application which is without bugs and more easy to understand is fundamental because of the quick ascent in number of applications. The engineer ought to consider the provokes confronted and attempt to conquer them by following the best possible advances. Additionally, it is basic for the designer to have a receptive outlook and ought to be all around informed about the present advancements, necessities and occasion in versatile application field. To assemble a fruitful, every one of the rules ought to be appropriately considered and pursued suitably to keep away from the danger of losing clients because of heartbreaking/falling applications. Growing new and inventive applications will prompt a probability of noteworthy income. There are likewise barely any exploration perceptions made that could fill in as an extension for future territories of research.

The Android SDK ships with various different instruments. A large number of which are utilized for unique improvement cases. In any case, the instruments recorded above will be utilized with pretty much every venture, paying little mind to the kind of application being created[10]. For more data on these and different instruments accessible, look at the Android Tools area of the Android site. Likewise, new apparatuses and improved instruments are discharged on a genuinely standard premise, so ensure you keep the entirety of the bundles refreshed with the AVD and SDK Manager. At last, well beyond the Android devices we've examined, your best asset is the Android Developer site. Complete with cutting-edge SDK downloads, source documentation, instructional exercises, specialized articles, and the Android blog with the most recent news, this site gives basic learning and backing to Android designers.

Chapter 6

SUMMARY

All through the procedure, I appreciated working with the association and it was awesome learning knowledge. I had the benefit of experiencing whole Software Improvement Life Cycle ideal from the necessity gathering stage. Additionally, the programming building ideas that I learnt hypothetically were really executed basically. Working with a organization, was an awesome learning knowledge to learn their principles and application areas. While recognizing all the assistance that my seniors rendered to me and with due regard and earnest appreciation to my educators who were instrumental to shape me out, present my undertaking report for your kind thought. This Application is a Gift Management application which is used to handle all the event which is conducted by the Perfect Gift application. This Application consist of two roles that is User side and admin side. User side is provide to the each user who is participating in the event and the admin side has a full control of updating the gifts and the quantity and price submitted or not.

How to use Logs: By the help of Logs we can easily identify errors in our android project. That is we can print the log after some lines. So when the error occur it print logs till that line, so by this we can identify that error is in the next line. Understanding Client Requirement and implement that into the project.

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